

II. INVESTIGATION OBJECTIVES AND PROCEDURES

A. General Procedures

1. Human Effects Episodes (General)

a. Objectives

During the investigation of human effects episodes, the primary objective is to **document the exposure and determine the circumstances (including any violations) contributing to the exposure event** in order to evaluate the effectiveness of the label directions, laws, regulations, policies, and practices.

b. Assistance

WH&S can provide technical assistance to the CACs on pesticide-related human effects episodes. WH&S staff is available to answer questions dealing with WH&S issues related to the investigation. Although limited, additional assistance is available for collecting dislodgeable residue samples, coordinating the collection of clothing, urine and blood samples, assisting CAC investigators in interviewing persons exposed to pesticides, and physician consultation services. Contact WH&S directly when requesting assistance. Since these services are limited, WH&S staff evaluates each request and will determine the level of assistance available.

WH&S contracts with the University of California, Davis (UCD) for physician consultation services. The UCD physician provides these services one day a week in the office and is on-call during the rest of the week during business hours to assist CACs and healthcare providers. To obtain assistance from the UCD physician, contact the WH&S Pesticide Illness Surveillance Program staff. The staff screen the requests to determine whether it requires immediate attention, or further research and will contact the UCD physician when appropriate.

c. Specific Information to Collect

The following information is required (when relevant) in every investigative report:

Specific activity. Identify the exposed person's specific activity (e.g., harvesting grapes, mixing for an aerial application) at the time of exposure. Also, include information on the length of time the employee spent at this activity. Avoid using "laborer", "farm worker", and other general terms because they do not provide activity-specific information.

Toxic agent. Specify the chemical product(s) involved. Was the chemical a pesticide or used as a pesticide? Record the full product name (example: Roundup Pro Herbicide instead of Roundup) and EPA registration number (including the alpha code). Describe how the chemical was used. Was the chemical properly used (i.e., according to label directions)? Is it a restricted material? Was anything different in the pattern of usage (i.e., first time use on a particular crop, different timing or method than in the past)? Accurately record all information.

Labeling. Include a copy of the pertinent pages of the labeling and section 18 directions with the investigation. Exclude pages that have no bearing on the episode (i.e., use directions for crops/sites other than the one(s) related to the episode). Whenever possible, obtain labeling from the product at the episode site or identify the source of the labeling. Take close-up photographs of the labeling when it cannot easily be removed from the container. Request a copy of the registered label from DPR's Pesticide Registration Branch. Do not include a copy of the Material Safety Data Sheet (MSDS) with the investigation, unless the MSDS is presented as evidence of the product used.

Exposure. Describe the exposure event in detail. Was there anything unusual about the individual's activity? Was the individual recently hired or recently assigned to pesticide use activities? Was there any potential exposure from prior activities? For employees, was there any potential exposure from non-work activities? If no specific exposure event can be identified, include a detailed history of activities and possible exposure situations for at least three days prior to the illness. Incidents where the exposure event cannot be determined may suggest that additional mitigation measures are needed to reduce overall exposure. In certain situations, use photographs to supplement the exposure event description, such as photographs showing drift spots on a vehicle. (NOTE: The determination of the exposure/illness relationship relies on specific and detailed information of the exposure situation and symptoms experienced. Specific and detailed information increases the accuracy of the exposure/illness relationship.)

Pesticide Application History. For incidents involving potential exposure to pesticide residue, provide a pesticide application history (at least 30 days) prior to the date of exposure for all fields worked. If no pesticide applications occurred in the previous 30 days, provide the information for the last pesticide application made to the field(s).

Cultural practices. Note any crop cultural practices that may contribute to the exposure (e.g., type of trellising, irrigation methods, clean vs. weedy fields, etc.).

Training.

Handlers: Was the employee involved in the episode properly trained? Does the employers' and employee's description of the training program coincide? Evaluate the quality of the training, as well as the training records. For priority episodes, include a copy of training records only for employees involved in the episode.

Field Workers: If field workers are involved, did an REI expire within the previous 30 days? If so, have the workers been properly trained? Do they have EPA Worker Protection Standard Training Worker Verification cards (blue cards)? Can the workers explain the type of training they received? Ask the employer how the field workers are trained.

Supervision. How closely was the employee(s) supervised? Was the supervisor aware of the conditions at the use site (3CCR section 6702)? Did the supervisor provide the required personal protective equipment (PPE)? Was the supervisor certified (generally limited to restricted materials)? Was there a plan to contact a supervisor (or his/her backup)?

Symptoms. Do not assume the information given in the PIR/DFROII is accurate. Ask the affected person what symptoms he/she experienced. How much time elapsed between exposure and the onset of symptoms? When more than one person is involved in an episode, record each individual's symptoms separately. Each person may react differently to similar exposures.

Medical care. Determine if the employer or supervisor had the employee taken to an appropriate medical care facility in a timely manner as required by 3CCR section 6726. Did the employee refuse to be taken for medical care? How much time elapsed between onset of symptoms and medical treatment? What treatment was provided to the victim? Were medical tests completed? If so, what were the results?

Was medical supervision required? If so, were the regulatory requirements and physician's recommendations followed? If not, document what tests were required, but not performed and/or what recommendations were not followed. For cases involving lowered cholinesterase levels, was the employer required to investigate the employee's work practices pursuant to 3CCR section 6728(d)? If the employer conducted a work practices investigation, include a copy of the report with your investigation.

Medical Records. For all priority human effects episodes, obtain the medical records and attach them to the investigative report. For non-priority human episodes, obtain the medical records if you believe they may provide necessary information relevant to the episode. Medical records, especially relevant test results, often play a critical role in evaluating the illness. To obtain medical records, take a Medical Information Authorization form (PR-ENF-133 (English) or PR-ENF-133x (Spanish)) for release of medical records and get it signed, by the victim, at the time of the interview. If you are unable to obtain the medical records, contact WH&S for assistance. If the records are not attached, document the reason(s) in the investigative report.

For episodes involving cholinesterase-inhibiting pesticides where the physician requested cholinesterase testing, obtain a copy of the laboratory test results, including the laboratory normal range for each test, and any baseline or prior cholinesterase tests available.

Application method and application equipment. Describe how the pesticide(s) was applied. What type of equipment (be specific) was used? Note items such as air or ground equipment, boom placement on the spray rig, type and effectiveness of closed system used, type of cab on the tractor, air conditioning or filtering system in use on enclosed cabs, type of hand-held application device, use of electrostatic spray equipment, etc. Is the equipment well-maintained and has it been calibrated? What is the size of the nozzle orifice? Evaluation of drift and residue (field and structural) episodes especially benefit from this type of information.

Protective measures. List the protective measures (engineering controls or PPE) provided and in use at the time of the episode. What engineering controls and PPE do the product labeling and regulations require? To effectively evaluate the episode and its effect on the regulatory program, WH&S needs to know the specific protective measures used (including leather vs. cotton gloves, long vs. short sleeves, chemical-resistant vs. cloth coveralls vs. normal clothes, goggles vs. sunglasses). For half face respirators, specify whether it is an organic vapor or particulate respirator (such as respirators designated as N95). Statements such as "All required protective clothing was worn" are not useful, unless combined with specific items worn. When possible, note the manufacturer and model of any engineering controls. Is the protective equipment in good repair (clean respirator filters, torn coveralls, holes in the gloves, etc.)? In all cases, indicate something in all the protective measures categories, even if none or unknown.

Decontamination. Were sufficient water (including for emergency eye flushing), soap, single use towels and clean change of coveralls available at the work site as specified in 3CCR sections 6734 and 6768? Were they used? Are clean coveralls provided daily (if required)? Does personal hygiene appear to be a factor in the incident?

Others involved. Were other individuals exposed? Did they have symptoms? Often, this cannot be determined accurately without interviewing these individuals. Include an interview summary for each individual interviewed. Do not state the affected individual was the only one in the crew to become sick/injured unless the entire crew is interviewed. Lack of a doctor's report (PIR or DFROI) does not mean that no other individuals suffered symptoms.

Notification. Describe the method the operator of the property used to give advanced notice of a planned application to appropriate people who may enter the field to be treated (*3CCR section 6618*). Remember employees who walk within ¼ mile are presumed to likely enter the treated field and require notification. This includes employees of licensed pest control business and licensed labor contractors hired by the operator of the property. Was the method adequate? Did the notice include all required information? Did a lack of adequate notice appear to have a role in the incident?

Hazard Communication/Application Specific Information. Did the employer (property operator or farm labor contractor) display a copy of an appropriate and filled out Pesticide Safety Information Series (PSIS) (A-8, N-8, A-9) (*3CCR sections 6723 and 6761*)? Did the property operator maintain pesticide use records, other applicable PSIS leaflets, and MSDSs for pesticides used? Did the employer keep employees informed as to where these records are kept and grant access to other required records? Describe the method the production agriculture property operator uses to display application-specific information (*3CCR sections 6723.1 and 6761.1*). Did it contain all required information? Was it timely?

Generally, these requirements would not be a causal factor in an illness incident. However, if it appears that either the failure to display or provide access to such information played a role in the incident, explain this in the investigative report. Regardless of the role this information played in the incident, these requirements should be evaluated during the investigation to determine whether such violations occurred.

d. Worker's Compensation

Worker's Compensation requires medical treatment for all workers made ill at the workplace. Workers are entitled to Worker's Compensation disability income if they become unable to work due to the effects of the pesticide exposure in the workplace. If a worker asks about worker's compensation, advise the worker to contact the Information and Assistance Officer of the closest district office of the DIR, Division of Workers' Compensation, for questions about the rights of the employee and worker's compensation coverage/benefits (For addresses and telephone numbers, see Appendix B or website <http://www.dir.ca.gov/dwc/IandA.html>)

2. Human Effects Episodes (Specific)

a. Field Worker Cluster Episodes

When investigating any illness/injury involving a member of an agricultural field crew, never assume the worker is the only crewmember affected. DPR may not have additional reports of illness or injury for several reasons: (1) the doctor's reports may not have made it through the system; (2) the doctor may not report the episode (even though required); or (3) the other crew members may not have sought medical care. If more than one illness/injury occurs at one location within a short period of time, be alert to the possibility of a cluster illness/injury situation. Early identification of this situation may actually prevent a serious cluster episode.

A field worker cluster episode may be the most volatile situation for an investigator. At least five issues must be considered:

1. Is there a continuing human health hazard?
2. What is the health status of the affected crew?
3. Is there a possibility of illegal residues on produce?
4. What exposure conditions led to the illness?
5. Were any violations identified?

The health of the exposed individuals must be the primary concern. The CAC should involve DPR (WH&S and EB) and the County Health Officer early in the episode. A conference call involving EB, WH&S, and possibly the health officer can help the county form a comprehensive investigation plan. The Health Officer has authority (*Health and Safety Code section 105200*) to become involved in this type of situation. The Health Officer has the expertise to provide valuable assistance in determining the presence of an ongoing health hazard and in communicating with physicians. Check with your county Health Officer for existing county policies.

When there is the possibility of an ongoing health hazard due to pesticides, the CAC can take the necessary steps to protect the workers. Pursuant to 3CCR section 6706, the CAC can issue an order to: (1) prohibit all entry by employees into the area; (2) require the employer to obtain medical supervision and an evaluation of workers by the medical supervisor; and/or (3) specify exposure time limits or PPE to be worn by employees

entering the area. The medical supervisor would monitor the health status of the workers. The medical supervisor's worker health recommendations must be followed. Inform WH&S of the identity of the medical supervisor.

Conduct individual interviews with each worker soon after the incident. Conduct the interviews privately, without the employer or an employer representative present. DPR recommends the CAC develop a short questionnaire to use during the interviews. Each questionnaire can take no more than five to ten minutes to administer. Concentrate the questions on worker specific information (e.g., medical symptoms, including prior history of dermatitis, asthma and allergies if pertinent, work location, and specific activity at time of exposure, personal hygiene, and living conditions).

The investigator must collect complete work histories to determine where the crew previously worked. Obtain a two-week work history prior to the episode. Work histories include time worked, activity, location of fields worked, crop, variety, crew assignments, etc. Collect pesticide application histories (at least 30 days) for all fields noted in the work histories.

People with appropriate expertise (toxicologists, physicians) evaluate these episodes (hazards of residue present, medical tests, etc.). Involve them early in the investigation. Contact WH&S for assistance in this area.

b. Public Exposure Episodes Involving Large Numbers of People

DPR and CACs are responsible for investigating any episode involving people exposed to pesticides while they are not working, including episodes involving large numbers of exposed people. These episodes often involve the off-site movement of pesticides (or their breakdown products) into non-agricultural areas. The affected people may not seek medical attention and thus PIRs are not filed.

For public exposure episodes possibly caused by the use of a pesticide on an agricultural commodity and where the resulting illness or injury resulted in medical attention, special procedures apply to the investigation. [FAC section 12997.7 outlines these special procedures.] Exposed individuals may be entitled to medical cost reimbursement.

In response to the requirements in FAC 12997.7, DPR developed a set of tools to provide guidance to the CAC in responding to these episodes. These guidelines can be found in Appendix F. The guidelines include two forms designed to assist the investigator in quickly collecting information on all exposed individuals within a household at the same time. These are: 1) Pesticide Exposure Incident Questionnaire; and 2) Pesticide Episode Investigation Non-Occupational Exposure Supplement (PR-ENF-128).

The Pesticide Exposure Incident Questionnaire is designed for the CAC to distribute to individuals within the affected area, to provide the individuals with the essential information concerning the episode, and to give affected individuals the opportunity to self-report their exposure situation and associated symptoms. The Pesticide Episode Investigation Non-Occupational Exposure Supplement (PR-ENF-128) is designed to

assist the CAC staff in collecting information during interviews. Both forms allow the collection of information for all members of an affected household (up to 15 people).

c. Episodes Involving Antimicrobial Pesticides

Conduct an investigation to determine the circumstances of exposure. Depending upon the circumstances, the investigator may choose to conduct the investigation by telephone, but must obtain the required information to complete the PEIR or Antimicrobial Exposure Episode Report form. **Be aware that many antimicrobial pesticides are “DANGER” materials and require the user to wear eye and hand protection.** The investigator should document any violations uncovered during the investigation and the enforcement action taken or proposed. In addition, the investigator should send to the employer DPR's “What You Need to Know About Using Disinfectants, Sanitizers, Medical Sterilants, and Other Antimicrobials in the Workplace.” (See website <http://www.cdpr.ca.gov/docs/enfcmpli/cmpliaast/antimic.pdf> for a copy of the leaflet.) DPR regulations refer to Title 8 CCR requirements for antimicrobial handlers [See 3CCR section 6720(c)]. However, the law (FAC section 12973) supercedes regulations and still requires compliance with the labeling use requirements.

d. Illnesses Alleged to be caused by Pesticide Residues on Produce

Whenever you are called about a (raw agricultural commodity) produce-related illness, take the name, address, and telephone number from the person making the complaint. Record the type of produce involved and when and where it was purchased. Also record the date and time of the call.

Inform the caller that these situations are handled jointly by the County Health Department, the CAC, and DPR. Follow the procedures below when investigating these complaints:

- Forward the complaint information to the County Health officer and request that he/she evaluate the complaint and determine if the illness is possibly pesticide related.
- Samples of produce related to “alleged illnesses” should not be collected or submitted to the California Department of Food and Agriculture (CDFA) laboratory for analysis until the county health department confirms the illness is, at least, “possibly pesticide related”.
- If the county health department determines the illness to be possibly pesticide related, your investigation must be initiated immediately. Samples should be collected, if available, of any remaining portions of the suspect produce, or of any of the same lot at the location of purchase. Contact the EBL or the EB regional office for arrangements for sample analysis.
- If the county health department determines that the illness is unlikely to be pesticide related, no further action should be taken by the CAC.

e. Suicide/Attempted Suicide

Suicides and attempted suicides present a unique problem for the investigator. In cases of suicide, obtain a copy of the coroner's report and use it as the basis of the CAC report. In the case of an attempted suicide, the investigator must avoid aggravating the mental state of the individual. The investigator should avoid direct contact with the individual. Obtain information from police records, paramedics, and physicians. **We need only to determine the identity and source of the pesticide, the extent of exposure, the signs and symptoms of illness/injury, and possible violations uncovered by the investigation.** In certain situations, such as involvement of a restricted material, additional information may be required. If the medical information cannot be obtained, identify the treating physician (name, address, telephone number) and forward to WH&S. WH&S may be able to obtain more information, if necessary.

f. Fatalities

Upon learning of a fatality, the investigator must obtain as much information about the circumstances as quickly as possible. Information such as the person's activity, potential pesticide(s) involved, exposure scenarios, work history, and episode location are needed for decisions concerning environmental and biological sample collection. Interview the employer, supervisor, and co-workers to obtain this information. Based on this initial information, the investigator may need to collect clothing, PPE, DFR, and tank mix samples, if the local law enforcement officials allow it. These are generally time-sensitive samples and must be shipped on ice, blue ice, or dry ice by next-day delivery. If shipping on ice, take the necessary precautions to make sure the samples stay dry (and the labels stay on the sample containers). Leakage from the package must also be controlled. Prompt sample analysis will provide the investigator with valuable information he/she can use in further investigating the episode. Be sure to discuss sample collection with your EBL. The EBL may need to coordinate the sample analysis with WH&S.

Since the county coroner may perform the autopsy within a short period after receiving the body, please notify WH&S promptly with the name and telephone number of the county coroner. WH&S may ask the coroner to collect tissue and fluid samples (such as blood for cholinesterase inhibition or analysis of chemicals, urine for pesticide metabolites, skin wipes, stomach contents, and tissue samples). WH&S will coordinate with the county coroner for sample collection during the autopsy and for the transport and analysis of these samples.

g. Pest Control Equipment Accidents

Investigate pest control equipment accidents (fatal or nonfatal) to determine if a pesticide exposure possibly affected the handler's judgment or abilities. An investigation of a pest control equipment accident should include:

- A work history for 14 days prior to the accident to evaluate possible pesticide exposure;
- A determination of the need for medical supervision;
- Copies of relevant medical tests (e.g., cholinesterase baseline and follow-up tests);
- Evaluate employer supervision;
- The most likely cause of the accident based upon the statement of the handler, employer, and any eye witnesses

For pest control aircraft accidents, obtain, if available, the most likely cause of the incident according to the National Transportation Safety Board (NTSB aircraft accident information can be found at: <http://www.nts.gov/NTSB/query.asp>). If a fatality occurred, refer to the section on pesticide-related fatalities. Review the priority episode investigation criteria to determine if the episode warrants a designation as a priority episode.

3. Complaints/Illnesses Related to Odor

All odors represent an exposure to a chemical. For pesticides, odors may be associated with any component of the pesticide product including the active ingredients, inert ingredients, impurities, and breakdown products. Odors elicit various responses, pleasant and unpleasant, in people. Many pesticide products have unpleasant odors associated with them. When released into the environment, these odors can trigger health-related effects in humans. Reports of odors can help clarify the exposure situation. In order for DPR to thoroughly evaluate the exposure, specific information should be collected concerning odors. These are:

- What did the odor smell like?
- When did you smell the odor?
- Where did you smell the odor?
- How long did you smell the odor?
- Describe the intensity of the odor.

Each year, the CACs receive a significant number of odor complaints possibly related to pesticides and investigate these complaints according to DPR's policy and expectations. A complaint investigation becomes an illness investigation when the investigator discovers either: 1) The complainant and/or others allegedly suffered illness symptoms from a pesticide exposure and sought medical attention; or 2) Five or more people reported symptoms, but did not seek medical attention.

4. Employee/Citizen Complaints

a. General Information

DPR and the CACs receive complaints alleging misuse of pesticides, human or animal health effects, environmental damage, or pesticide injury or damage to crops or property. According to DPR's policy and expectations, all complaints are investigated. However, the CAC has discretion to consider availability of resources and other priorities in determining the extent of the investigation and level of effort to invest.

When DPR staff receives a complaint, they refer the complainant to the responsible agency for investigation. DPR does not normally ask the investigating agency for a follow-up report on routine complaints except for complaint referrals from the US EPA where it has requested a report and complaints received from the DPR Executive Office with an assignment to respond.

DPR refers pesticide use-related complaints to the CAC and does not normally conduct its own investigation except where a possible conflict of interest may be involved. For complaints involving CAC performance, DPR reviews the CAC action and determines whether the CAC responded in an acceptable manner. If DPR determines the CAC performance is acceptable, DPR informs the complainant of the findings and closes the case. If DPR determines the CAC should have conducted a more in-depth investigation, DPR will discuss the case with the CAC and inform the complainant that DPR requested the CAC to pursue the issue further.

Normally, DPR investigates complaints of pesticide product compliance or pesticide residues on produce in the channels of trade. DPR expects the CACs to conduct a follow-up investigation of residues found on crops grown in their county to determine if the residue was the result of pesticide misuse.

A complaint investigation becomes an illness investigation if the investigator discovers either: 1) The complainant and/or others allegedly suffered illness symptoms from a pesticide exposure and sought medical attention; or 2) Five or more people reported symptoms, but did not seek medical attention. Upon completion, submit the investigative report to DPR. WH&S will assign a case number to the individual(s).

b. Citizen Complaints

Citizens should complete and sign the appropriate complaint form, **but an investigation must be conducted** even if the complaint is oral. For complaints of exposure/effects, use the Report of Human Exposure or Unsafe Condition form (PR-ENF-074). Even if the complainant does not wish to sign the complaint form, the forms still serve as the basis for the interview and to record the information received. For these types of episodes, determine the following:

- Did the exposed person(s) seek medical attention?
- Has the hazardous situation been resolved?
- Is pesticide misuse alleged?
- Are there any violations? Attempt to obtain as much information as possible from the complainant at the time of the initial contact (signed statement, medical records release, etc.).
- Do you have any recommended changes in the pesticide regulatory program as a result of this investigation?

c. Employee Complaints

An employee has a right to a safe workplace (*3CCR section 6702*). The employer has the responsibility to remove unnecessary hazards from the workplace and to provide protective devices for hazards to which the employee may be exposed.

The employee has the right to file a confidential complaint alleging unsafe working conditions. The employee's legal rights must be protected at all times during the investigation of a complaint (*Labor Code sections 6309 and 6310*; website: <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=lab&group=06001-07000&file=6300-6332>). The name of the complainant must be kept confidential unless that person specifically requests otherwise (*Labor Code section 6309*).

Employee complaints may be formal or informal. A formal complaint is an oral or written allegation by an employee, union representative, or other employee representative (with or without a contract). If the complaint is a formal complaint, Labor Code section 6309 and the DIR/DPR/CACASA MOU (website: <http://www.cdpr.ca.gov/docs/enfcmpli/penfltrs/penf1993/1993009.pdf>) requires an investigation begin as soon as possible, but not later than three working days if a serious violation is alleged or 14 days for other complaints. The CAC must inform the complainant of any action taken or the reasons for not taking action. If there is no reasonable basis for the complaint, include the supporting evidence in the episode investigation report. Employee complaints from other sources (e.g., friends, spouses, or special interest groups) are informal complaints and are not limited by the three working day response; otherwise, they are handled in the same manner as formal complaints. Interviews should be conducted in private without employer representation. This interview should cover the conditions of the workplace. Do not give advance notice to the employer that an interview or inspection pursuant to an employee complaint is to be made.

For employees filing complaints involving human exposure/effects due to pesticides, use the Report of Human Exposure or Unsafe Condition form (PR-ENF-074). The CAC may also receive written complaints on referral from Cal/OSHA as well as by letter from the employee or employee representative.

Conduct the basic investigation of an employee complaint of a hazardous workplace in the same manner as complaints received from other sources. Give special attention to the allegations included in the complaint. Determine the following:

- Is there any evidence to support the allegation?
- Has the hazard been removed or are protective devices available to control employee exposure?
- Did violations occur?
- Should other agencies be involved in the investigation (e.g. Cal/OSHA)? If the employee or coworkers reported suffering illness symptoms, recommend they seek medical attention.

Normally, an employee complaint triggers one or more types of inspections using the Field Worker Safety Inspection form (PR-ENF-103), Pesticide Use Monitoring Inspection forms (PR-ENF-104 through 108), or the Pest Control Records Inspection forms (PR-ENF-109 or 110).

The DIR/DPR/CACASA MOU requires DIR to refer complaints of unsafe practices involving agricultural, as well as nonagricultural use of pesticides to the CAC. The CAC refers complaints of unsafe workplaces involving manufacturing or formulation plants and commercial (i.e., marketing or distribution, not user) storage, transportation or disposal of pesticides or pesticide containers to DIR for investigation. The CAC should contact the local DIR representative to determine if a joint investigation is necessary when questions arise about the jurisdiction of an employee complaint. Labor Code section 6313 requires DIR to investigate the causes of any employment accident that results in a fatality or involves hospitalization of five or more people for 24 hours. (NOTE: This is different than the priority episode investigation criteria.) These types of episodes are likely to result in joint investigation.

d. Employee Complaints of Retaliation

The employee has the right to protection against retaliation by the employer when he/she files a complaint (*3CCR Section 6704*). If you receive a complaint from an employee regarding any incidents of retaliation (including threats of retaliation), inform the employee that the Department of Industrial Relations, Division of Labor Standards Enforcement (DLSE) handles retaliation cases. See Appendix C or the DSLE web site (<http://www.dir.ca.gov/dlse/DistrictOffices.htm>) for a list of DSLE district offices. Provide the employee with the telephone number and address of the nearest DLSE office. DPR recommends that the investigator tell the complainant to provide the DLSE representative with the investigator's name. This will allow the DIR investigator to contact the CAC investigator.

Information regarding retaliation is CONFIDENTIAL. DO NOT document *any* information regarding retaliation on an inspection report or on any document that will be received by the employer. DO NOT discuss any information regarding retaliation with the employer.

5. Environmental Effects Episodes

Since non-human effects episodes cover a wide range of types, the specific objectives vary. In general, the objectives are to identify continuing hazards or any violations and gather evidence to support a corrective or enforcement action. More specific objectives are listed under each heading.

a. Illegal Residue Detection

The CAC responds to illegal residues on produce in the field when notified by the DPR EB regional office or when their own observations or record reviews indicate a crop may contain an illegal residue. Information regarding illegal residue cases initiated by the CAC should be given to the DPR EB regional office as soon as possible.

The CAC has three areas of responsibility regarding illegal residues:

- 1) Locate, contain and control suspected crops in the field;
- 2) Investigate illegal residue episodes to determine if they resulted from violations of pesticide laws or regulations; and
- 3) Notify DPR if commodities suspected of containing illegal residues have entered the channels of trade.

The grower and source field(s) should be identified quickly. Fields suspected of contamination can be held by DPR if it is within one week of harvest. DPR may delegate this authority to the CAC or may request that the CAC deliver a faxed order issued by DPR. FAC section 12601 allows a field to be held for only 24 hours unless sample analysis shows it to contain an illegal residue. DPR may request that the CAC collect a representative sample of the held field. [See section III (A) (8) (b) (viii), page 49 for commodity sampling directions.]

If the suspect field is found to contain an illegal residue, DPR or the CAC will issue a **Stop Harvest Order** pursuant to FAC section 12673.

If the suspect field is more than one week of harvest DPR will issue (or request the CAC to issue) a pack, ship, and sell letter pursuant to FAC section 12671. A "**Pack, Ship, and Sell**" letter is a compliance action with several purposes. It informs a person that he/she is suspected of being in violation of pesticide residue laws. It explains the violation and how it was discovered and it warns the person of the possible consequences of harvesting the suspected field. It is then up to the grower to demonstrate, via private lab sampling, the crop does not carry an illegal residue prior to harvest or destroy the crop.

If it is determined a grower is in violation of a pre-harvest interval, no sampling is required. In these cases the field should be held by the CAC using FAC section 12672 until the interval has expired.

Once the contaminated field has been identified and harvest has been stopped, the episode should be investigated in the same manner as other types of episodes. Residue cases are categorized as either over tolerance or no tolerance established (NTE).

Over-tolerances are commonly caused by violation of the pre-harvest interval, use at too high a rate, too frequent use, or other label violations. NTE residues are commonly caused by use of a pesticide not registered for that commodity, drift, spray rig contamination or violation of a plantback restriction. Investigations should include an evaluation of applications made to the suspect field, application equipment work histories, and applications made to adjacent fields.

b. Fish and Wildlife Effects

The Memorandum of Understanding between DPR/CACASA/DFG (see website: <http://www.cdpr.ca.gov/docs/enfcmpli/penfltrs/penf2000/2000atch/attach30.pdf>) establishes procedures for coordinating investigations of episodes involving injury or death of non-target fish and wildlife, coordinating laboratory analyses, and coordinating enforcement actions. The Pesticide Wildlife Incident Response Plan Agreement established a formal notification system of pesticide incident monitoring to ensure mutual awareness of injuries or death of non-target fish and wildlife attributable to pesticides.

A fish or wildlife episode investigation (need not be a priority episode) requires immediate notification of DPR (Regional Office) and DFG central dispatch (1-888-334-2258). Appendix D shows the DFG regional office map.

A fish or wildlife investigation requires determination of the circumstances, what and/or who is responsible. Some of the circumstances to consider are:

- What kind of wildlife/fish are involved? How many are affected?
This is an area that may be more appropriately determined by a DFG Biologist.
- The causative agent or condition.
The laboratory may be able to help determine the causative agent or condition, but not always. Extremely decomposed biological samples make analysis difficult, if not impossible. Moving water may dilute the pesticide to levels below the limits of detection. In these cases, the investigator must rely on circumstantial evidence. See section III (A) (8) (b) (v), page 48 for water sampling techniques.
- How and when was the pesticide introduced?
Review the NOIs and pesticide use reports for the subject field and related fields (fields that could have contributed to the contamination). Pesticide releases from temporary flight strips or field drainage can be a cause. A map of the canal or watercourse showing direction of flow and extent of kill may reveal a pattern to

the kill. Do not overlook applications of aquatic herbicides; large volumes of decaying vegetation depletes oxygen and causes fish kills, even though the herbicide itself is not toxic to the fish. If a wildlife loss, consider whether secondary poisoning may be involved.

For more information on how to investigate fish and wildlife kills, consult DPR's Pesticide Wildlife Incident Response Plan (<http://www.cdpr.ca.gov/docs/county/training/trngmenu.htm> - pestwild).

c. Emergency Hazardous Materials (Pesticides) Incidents

Hazardous materials incidents (i.e., pesticide spill or fire) often involve response from multiple agencies, such as fire, law enforcement, emergency medical services, environmental health, and the State of California Office of Emergency Services.

The County Emergency Response Plan will designate lines of communication. In most cases, the CAC should contact the lead agency designated for that county. This is necessary to avoid confusion and duplication of effort during an emergency situation.

Specialized techniques, equipment, and organizational concepts are often required for adequate incident response. There are times when a defensive, rather than an offensive, posture is the appropriate response to a hazardous material incident. An offensive posture usually entails immediate aggressive action in a situation where the consequences of abating the hazard are known and the means to respond appropriately are available. A defensive posture is appropriate when the consequences of the responder's action are not clearly understood.

Do not leave a hazardous area unattended under any circumstances. Do not approach a spill or fire site that may involve toxic substances unless thoroughly trained and equipped with adequate protective devices. Any approach, especially of fires, must be from the upwind side. Call the appropriate response agency and your supervisor (or have someone else make these calls) as soon as possible.

Consider two things in securing the site: (1) remove unauthorized people and/or keep them away from the area; and (2) prevent the spread of the material insofar as possible. If possible, safely prevent spilled material from entering drainage systems. Liquids may be contained by diking with readily accessible materials.

If there is an injured person needing assistance, use good judgment before approaching the site, as you risk the possibility of contaminating or injuring yourself. This is especially important if you are alone at the site.

If contaminated people are accessible, speed is essential. One person should begin first aid treatment while another, if available, calls for assistance. Take precautions such as wearing necessary PPE to avoid contamination during this process. Decontaminate the victim immediately to stop pesticide exposure. Arrange for or provide transportation of the victim to a medical facility as soon as possible. Save the pesticide container and material, if any remains, or get a readable label to identify the chemical for a physician.

6. Property Damage or Loss

Many circumstances may result in property damage or loss episodes. The most common episodes include drift of herbicides, contamination of a commodity with unregistered pesticides, poisonings of domestic animals, and bee kills. The complainant may want the investigator to assist in securing monetary compensation either directly or through findings that can be used in civil court. As the investigator, collect unbiased information useful in determining if pesticide laws or regulations were violated. Do not allow influence by possible civil action. Investigations are conducted regardless of compensation to the affected party.

If crop reduction or total loss is involved, obtain production history for the field in question or for similar fields. The damage pattern may give clues as to the cause and/or direction of the source. Plan your sampling so it provides useful information. Refer to the **Sample Collection** section (section IIIA) of this manual for direction. For example in drift cases, perform gradient sampling, a series of 5 samples taken at varying distances between the suspected source of the drift and the alleged site of the property damage or loss. If drift occurred, the residue level will generally decrease in proportion to the distance from the application site. Consider local topography, especially when investigating episodes involving the fumigants. Always prepare a map showing the affected areas and sampling locations. Photographs may also prove useful, if effects are visible.

If the problem appears to be connected to the efficacy or performance of a pesticide product, gather complete information about the application site (including soil types) and the application. This includes all chemicals (including adjuvants) in the mix, pH of the water, and variety of the plant/animal injured. When possible, obtain samples of the suspected pesticides from the tank or container for laboratory analysis. Contact your DPR EBL when investigating episodes involving pesticide performance.

7. Drift

a. General Information

- Background:

Some pesticide drift is expected from all aerial and other above ground pesticide applications. Recognizing this, California's Legislature established as the legal standard that pesticides be used in a manner that prevents substantial drift to nontarget areas (*FAC section 12972*).

Even though the 3CCR section 6000 definition of substantial drift includes the phrase "quantity of pesticide," a determination that drift was substantial is NOT dependent on the amount of pesticide that was deposited outside the target area, but, rather, by a determination that the applicator did not use due care. Pesticide drift is substantial if it exceeds what would have occurred if the applicator had used due care.

- Definitions:

Drift: Pesticide movement through the air that is not deposited on the target area at the time of application. Drift does not include the movement of pesticide and associated degradation compounds off the target area after the application, such as by translocation, volatilization, flux, evaporation, or other forms of “lift off”. Drift also does not include the movement of pesticide dusts or pesticide residues on soil particles that are windblown off the site after the application.

Substantial drift: The quantity of pesticide outside of the area treated is greater than that which would have resulted had the applicator used due care (*3CCR section 6000*).

Due Care: The degree of care a prudent and competent person engaged in the same line of business or endeavor would exercise under the same or similar circumstances. When a person does not exercise due care, the person is said to be negligent.

b. Investigation

When the CAC becomes aware of an incident involving pesticide drift, the CAC must promptly investigate the episode. This includes complaints made anonymously and/or not in writing. Some episodes may meet the criteria for initiating a priority investigation.

The CAC must complete the investigation even if the complaint is withdrawn or the complainant receives compensation for any alleged damages.

When conducting an investigation involving pesticide drift, the CAC should determine whether the applicator violated FAC section 12972, 3CCR section 6614, or other regulations.

If an application results in a pesticide contaminating the bodies or clothing of persons not involved in the application process, damaging nontarget crops or other property, or contaminating property that prevents normal use of the property, then, generally, the CAC will be able to show that the applicator applied the pesticide when a *reasonable* possibility existed that the consequence would happen and the applicator violated 3CCR section 6614.

However, occasionally there could be a case where an application caused the consequence described in 3CCR section 6614, but the evidence presented by the defense shows the resulting consequence was not a reasonable possibility.

For a discussion of what is required to prove issues related to substantial drift at a hearing, refer to section 7.2 in the hearing officer Roundtable Project (<http://www.cdpr.ca.gov/docs/county/training/hrngofcr/hearofficer.htm>).

c. Establishing Due Care

To prove that an applicator failed to use due care in making a pesticide application, the CAC must present sufficient evidence to show that the applicator failed to do what a reasonable applicator would or would not have done under the same or similar circumstances.

To determine whether an applicator used the care that was due, it is essential to determine what the weather and other conditions were at the time of the application, what the conditions were at and near the target area, what decisions were made, and what actions were taken by the applicator. The applicator's actions, or lack of actions, will be the deciding factors in determining whether the applicator used due care under the circumstances that existed at the time of application, and thus, whether the pesticide was or was not used in a manner to prevent substantial drift to nontarget areas. This determination may involve referencing published good established practices.

d. Applicator Responsibility to Prevent Adverse Effects

Title 3, CCR section 6614 places responsibility on the applicator *prior* to making a pesticide application to evaluate the surrounding properties and other conditions (e.g., application equipment, meteorological conditions, the property to be treated, etc.) and determine the likelihood of harm or damage in order to decide whether the application should be made.

Title 3, CCR section 6614 also requires the applicator, *during* the application, to continually monitor these conditions to determine if a likelihood of harm or damage has arisen during the application in order to further decide if the application must be discontinued.

Basically, 3CCR section 6614 states that even though the applicator will use the same care that reasonable applicators would use under the same or similar circumstances to minimize drift to nontarget areas, there still are certain situations where the application cannot be made, or, once started, cannot be continued. These situations involve possibilities that are *reasonable* ones under the circumstances of the particular application, i.e., possibilities of which the applicator *reasonably* should have known.

B. Priority Episode Investigations

The investigator must consider the priority episode investigation criteria contained in the US EPA/DPR/CACASA Cooperative Agreement for each episode (<http://www.cdpr.ca.gov/docs/enfcmpli/penfltrs/penf2003/2003atch/attach39.pdf>). When the investigator learns of an episode that **appears** to meet one or more of the effects listed in Figure 2 and where there is a reasonable possibility that it could have resulted from the use or presence of a pesticide, he/she must promptly report the episode to an EBL or the EB regional office.

For priority episode investigations, the US EPA/DPR/CACASA Cooperative Agreement makes no distinction between use-related and non-use-related episodes. DPR reports all priority episodes to the US EPA irrespective of the agency with lead investigative responsibility. For episodes that fall outside of DPR/CAC jurisdiction, DPR will notify the agency with the lead investigative responsibility. For episodes that occur outside of California with any of the listed effects criteria occurring in California, DPR will refer the episode to US EPA.

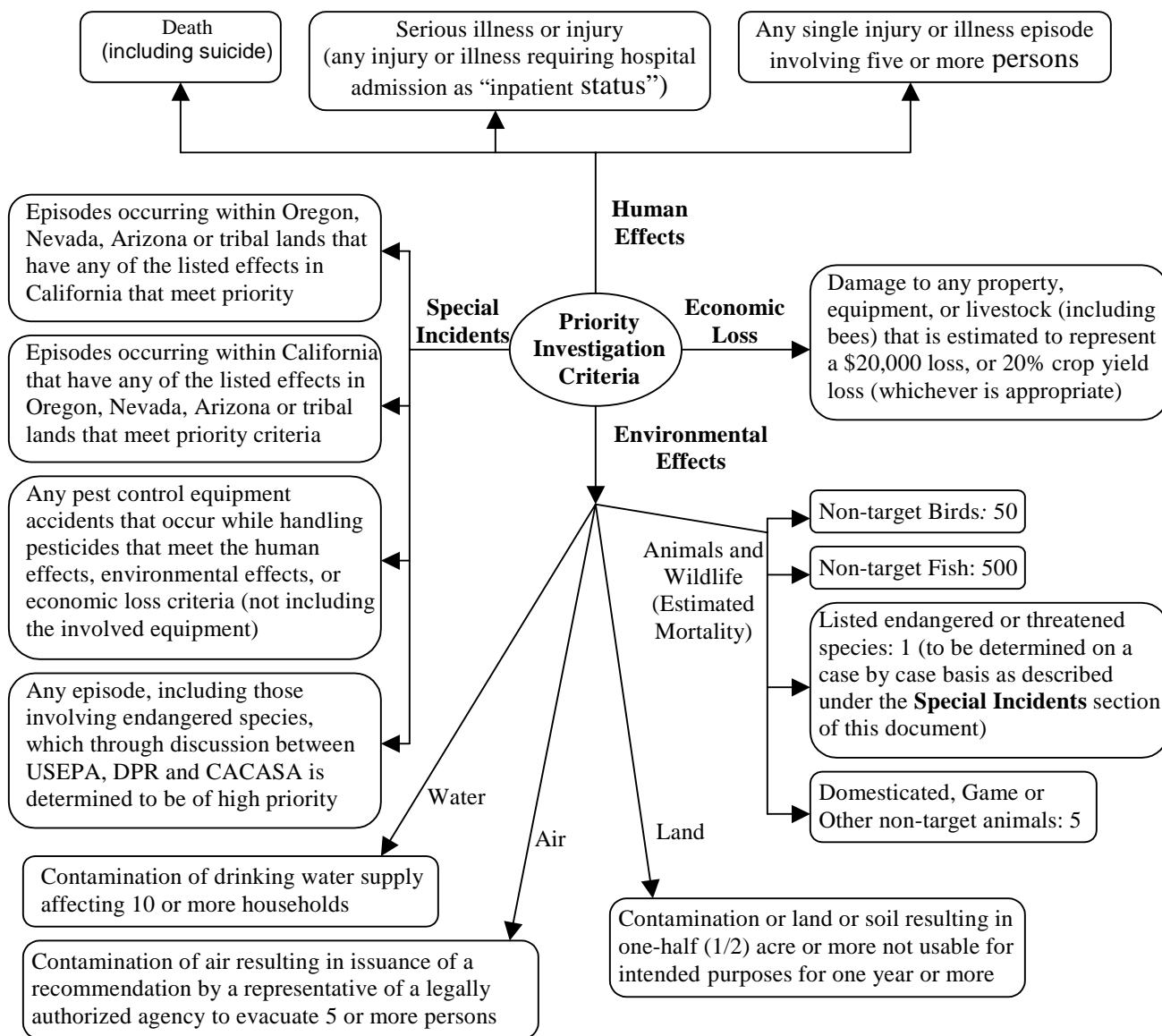
DPR's EB assigns a priority episode number and sends a Pesticide Episode Notification Record (PENR) to all agencies with responsibility. The EBL works with the CAC during the investigation to ensure State and US EPA concerns are met. This includes investigating all possible violations and taking appropriate enforcement action. View these episodes as an opportunity to examine the entire regulatory process.

According to the US EPA/DPR/CACASA Cooperative Agreement, a priority episode investigation must commence immediately whenever possible, but no later than 3 working days from referral to the CAC. The CAC will conduct a full investigation on all priority episodes within their jurisdiction. Based on preliminary information from the CAC investigation, the EBL submits an updated report of the priority episode to the DPR EB headquarters office no later than 15 days following the issuance of the PENR. This updated report should include the CAC's initial findings, suspected violations, projected completion date and contemplated enforcement actions. The CAC must submit to DPR the completed investigative report within 45 days of completing the investigation. The DPR final report must be submitted to US EPA within 75 days of the CAC completing the investigation. If the investigation cannot be completed by the date set by the CAC, the CAC must notify the EBL on Form PR-ENF-097 explaining why the priority investigation cannot be completed by the set date. The CAC must also specify the length of time needed to complete the investigation.

In the CAC investigative report, the investigator should cover all aspects of the incident (including those not directly contributory). The final CAC report must contain all relevant evidence that might contribute to an evaluation of the cause, effect, and responsibility. During the investigation, examine the activities of all persons involved in making the decision to use a pesticide (including the pest control dealer or agricultural pest control adviser), those who applied it, and when applicable, those involved in deciding when to send a field crew into the field to perform cultural activities.

Figure 2

Priority Episode Investigation Criteria



Restricted Materials Used During a Priority Episode
(CEQA functional equivalency program effectiveness)

The EBL assigned to the county responsible for each priority investigation that involves a restricted material is expected to complete a report that responds to each of the issues listed in Appendix G (registration, labeling, permit, NOI, pre-application site evaluation, recommendation, and certification). This report will be forwarded to headquarters via the RO supervisor and placed in the investigative file folder for that episode. The CACs are requested to assist the EBL by providing information needed to complete the report.

Due to the nature of events resulting in priority episode investigations, other agencies, including US EPA, commonly review these reports. Often, these episodes attract media, public, and/or legislative attention.

C. Conducting Witness Interviews

The purpose of an interview is to gather information or evidence directly related to the episode. Interviewing individuals associated with a pesticide episode is an integral part of an investigation. The circumstances of the episode dictate the individuals who should be interviewed. For episodes involving drift, structural applications, etc., obtain information from the applicator. If the investigator cannot interview an individual, he/she should state the reason in the episode narrative.

Before beginning your interview, introduce yourself by full name, title and your employer. Tell the interviewee the purpose of the interview. Allow the interviewee to tell his story. Fill in any gaps in the story by asking simple direct questions. Maintain a patient demeanor throughout the interview. Do not use jargon, technical terms, or codes that the interviewee may not understand.

As part of the interview, make sure these five questions are answered:

1. What happened?
2. Where did it happen?
3. When did it happen?
4. Who did it?
5. Why did it happen?

Who should be interviewed: Individuals directly involved in the episode must be interviewed whenever possible. These individuals include the injured individual(s), employer and/or supervisor, applicator, and any eyewitnesses to the episode. In episodes involving two or more ill workers, interview each worker individually. Write an interview summary for each individual interviewed.

Who should be present at the interview: Consider an interview as a private conversation so keep the number of people present to a minimum. Limit the interview to the investigator(s), interviewee, and an interpreter (if needed). For employees, do not conduct the interview in the presence of the employer/supervisor, as this creates the potential for intimidation and/or retaliation against the employee.

Interview Locations: Choose the interview location to afford a private conversation. The location needs to make the interviewee feel comfortable. Government offices, as well as the individual's home, make excellent interview locations. When these locations are not available, choose a less desirable, but still acceptable, location to conduct the interview. Such locations include an employer's office (without the employer present) and outdoor work areas such as agricultural fields. The interviewee may feel uncomfortable talking to the investigator because of the proximity to the employer and/or supervisor. When interviewing a worker in a field setting, conduct the interview at a suitable distance from the crew and crew foreman so as to ensure privacy and confidentiality.

Interpreters: When dealing with non-English speaking workers, ensure adequate interpreters are available. Prior planning will establish a network of interpreters who can be contacted and retained on short notice in an emergency.

Using the right interpreter is extremely important. The key is to make the interviewee feel comfortable with the interpreter so he/she provides accurate information pertaining to the episode. Do not use the employer, supervisor, foreman, or other company employees unless specifically requested by the employee. Using such people creates the potential atmosphere for intimidation and threats of reprisal, and can result in the employee providing less or inaccurate information.

Documentation of Interviews in the Investigative Report: Write a separate narrative summary for each individual interviewed. For each interview, state whom you interviewed, who was present at the interview, the date and time the interview took place, where the interview took place, and what the interviewee said.

Contact Log: Keep a contact log for each investigation. Record all attempts to contact individuals involved in the episode and record the results of each attempt. The contact log provides written evidence of the investigator's efforts to conduct an investigation and the results of that effort. Attach the contact log, if appropriate, to the investigative report. The log substantiates an investigator's effort to conduct a thorough investigation, especially when crucial individuals can't be located or refuse to cooperate with the investigator.

Interview Questions: To assist investigators, a series of interview questions in English and Spanish can be found in Appendix E for the following types of episodes:

- a. Pesticide Handler, Employee
- b. Pesticide Handler, Employer
- c. Field Worker Exposed to Pesticide (Drift or Residue)
- d. Private Citizen Exposed to Pesticide Drift
- e. Private Citizen Exposed to Pesticide Residue

Investigators may develop additional questions, as needed, depending upon the circumstances of the episode.